

Title (en)
Loading mechanism for sets of disposable elements

Title (de)
Ladevorrichtung für Einwegelementensätzen

Title (fr)
Mécanisme pour charger des ensembles d'éléments jetables

Publication
EP 0753749 A1 19970115 (EN)

Application
EP 96305117 A 19960711

Priority
US 50185595 A 19950713

Abstract (en)
Inter alia, in a system for installing, from a supply of disposable probe tips, one such probe tip on a probe sample by an automated fluid analyzer system and for removing the tip after each use to allow a fresh tip to be installed, a mechanism for making a fresh supply of tips (12) available in a carrier tray (10) and for receiving and disposing of empty carrier trays (10). Multiple probe tip trays (10), each having a base (14), a lid (16) and holding an array of tips (12) are stacked within a chute (22) of the mechanism. A pair of arms (24) are swung up from a substantially vertical position to a horizontal position beneath the chute (22). An associated latch (48) engages the lid of the lowermost tray (10) within the chute (22) while tray guides (40), which hold the trays (10) within the chute (22), separate to release the lowermost tray (10) onto the pair of arms (24). A delivery rack (32) associated with the analyzer system receives the lowermost tray base (14) from the pair of arms (24) by engaging the tray base (14) with a pair of clips. The rack (32) then removes the base (14), and the probes thereon, to the analyzer system. The pair of arms (24) meanwhile lower and dump the lid (16) into a waste receptacle or disposal chute. The delivery rack (32) thereafter returns and empty base (14) to the parallel arms (24), which similarly dump the empty base into the waste receptacle or disposal chute. The cycle is repeated by removing the next tray from the chute.
<IMAGE>

IPC 1-7
G01N 35/10; B01L 3/02; B65G 59/10

IPC 8 full level
B01L 9/00 (2006.01); **G01N 35/04** (2006.01); **G01N 35/10** (2006.01)

CPC (source: EP US)
B01L 9/543 (2013.01 - EP US); **G01N 35/10** (2013.01 - EP US); **G01N 2035/0425** (2013.01 - EP US)

Citation (search report)
• [XA] US 3298565 A 19670117 - CEASE WILLIAM W
• [PA] DE 4436473 A1 19960314 - STEINBRENNER BERND DR [DE]
• [A] US 4971514 A 19901120 - HUNTER DON F [AT]
• [A] EP 0301583 A2 19890201 - FUJIREBIO KK [JP]
• [A] US 4991741 A 19910212 - ANDERSON DOUGLAS R [US]
• [A] EP 0041304 A1 19811209 - ADMINISTRATIE EN AUTOMATISERIN [NL]

Cited by
DE10059702A1; DE10059702B4; EP2093571A3; GB2514185A; US9207249B2; US9696327B2; EP3109642A1; US9952244B2

Designated contracting state (EPC)
CH DE FR GB IT LI

DOCDB simple family (publication)
EP 0753749 A1 19970115; **EP 0753749 B1 20030423**; CA 2177233 A1 19970114; DE 69627581 D1 20030528; DE 69627581 T2 20040226; JP 3710563 B2 20051026; JP H0933541 A 19970207; MX 9602286 A 19980430; US 5674047 A 19971007

DOCDB simple family (application)
EP 96305117 A 19960711; CA 2177233 A 19960523; DE 69627581 T 19960711; JP 18087696 A 19960710; MX 9602286 A 19960611; US 50185595 A 19950713